



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 11-0042

Project: 12-0219, Woolfolk Chemical - Reported by Jeannie Williamson

April 23, 2012

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 12-0219, Woolfolk Chemical
Superfund Remedial

FROM: Jeannie Williamson
OCS Chemist

THRU: Sallie Hale, Chief
ASB Organic Chemistry Section

TO: CharlesL King

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:

Method Used:

Organochlorine Pesticides (OCP)

Organochlorine Pesticides

EPA 8276



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Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

cc: Nardina Turner



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SAMPLES INCLUDED IN THIS REPORT

Project: 12-0219, Woolfolk Chemical

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
WCSO14	E120707-01	Surface Soil	2/15/12 10:00	2/16/12 9:56
WCSO24	E120707-02	Surface Soil	2/15/12 10:05	2/16/12 9:56
WCSO34	E120707-03	Surface Soil	2/15/12 10:10	2/16/12 9:56
WCSO44	E120707-04	Surface Soil	2/15/12 10:15	2/16/12 9:56
WCSO54	E120707-05	Surface Soil	2/15/12 10:20	2/16/12 9:56



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DATA QUALIFIER DEFINITIONS

None

ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
MDL	Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
MRL	Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
TIC	Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.



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Organochlorine Pesticides

Project: 12-0219, Woolfolk Chemical

Sample ID: WCSO14

Lab ID: E120707-01

Station ID: WC245

Matrix: Surface Soil

Date Collected: 2/15/12 10:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
70649-42-2	Hp-Sed	430		ug/kg dry	0.27 1.3	2/23/12 11:19	3/22/12 15:55	EPA 8276
57981-29-0	Hx-Sed	140		ug/kg dry	0.16 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
142534-71-2	Toxaphene, Parlar 26	51		ug/kg dry	0.16 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
166021-27-8	Toxaphene, Parlar 40	82		ug/kg dry	0.19 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
165820-16-6	Toxaphene, Parlar 41	23		ug/kg dry	0.21 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
165820-17-7	Toxaphene, Parlar 44	26		ug/kg dry	0.18 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
6680-80-8	Toxaphene, Parlar 50	44		ug/kg dry	0.20 0.65	2/23/12 11:19	3/22/12 4:19	EPA 8276
154159-06-5	Toxaphene, Parlar 62	41		ug/kg dry	0.91 3.2	2/23/12 11:19	3/22/12 4:19	EPA 8276



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Organochlorine Pesticides

Project: 12-0219, Woolfolk Chemical

Sample ID: WCSO24

Lab ID: E120707-02

Station ID: WC245

Matrix: Surface Soil

Date Collected: 2/15/12 10:05

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
70649-42-2	Hp-Sed	280		ug/kg dry	0.16 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
57981-29-0	Hx-Sed	94		ug/kg dry	0.20 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
142534-71-2	Toxaphene, Parlar 26	27		ug/kg dry	0.19 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
166021-27-8	Toxaphene, Parlar 40	44		ug/kg dry	0.23 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
165820-16-6	Toxaphene, Parlar 41	12		ug/kg dry	0.25 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
165820-17-7	Toxaphene, Parlar 44	13		ug/kg dry	0.22 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
6680-80-8	Toxaphene, Parlar 50	20		ug/kg dry	0.24 0.77	2/23/12 11:19	3/22/12 5:18	EPA 8276
154159-06-5	Toxaphene, Parlar 62	14		ug/kg dry	1.1 3.9	2/23/12 11:19	3/22/12 5:18	EPA 8276



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Organochlorine Pesticides

Project: 12-0219, Woolfolk Chemical

Sample ID: WCSO34

Lab ID: E120707-03

Station ID: WC245

Matrix: Surface Soil

Date Collected: 2/15/12 10:10

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
70649-42-2	Hp-Sed	280		ug/kg dry	0.16 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
57981-29-0	Hx-Sed	97		ug/kg dry	0.20 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
142534-71-2	Toxaphene, Parlar 26	23		ug/kg dry	0.19 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
166021-27-8	Toxaphene, Parlar 40	37		ug/kg dry	0.23 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
165820-16-6	Toxaphene, Parlar 41	7.9		ug/kg dry	0.25 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
165820-17-7	Toxaphene, Parlar 44	9.3		ug/kg dry	0.22 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
6680-80-8	Toxaphene, Parlar 50	13		ug/kg dry	0.24 0.78	2/23/12 11:19	3/22/12 6:17	EPA 8276
154159-06-5	Toxaphene, Parlar 62	9.4		ug/kg dry	1.1 3.9	2/23/12 11:19	3/22/12 6:17	EPA 8276



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Organochlorine Pesticides

Project: 12-0219, Woolfolk Chemical

Sample ID: WCSO44

Lab ID: E120707-04

Station ID: WC245

Matrix: Surface Soil

Date Collected: 2/15/12 10:15

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
70649-42-2	Hp-Sed	300		ug/kg dry	0.17 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
57981-29-0	Hx-Sed	110		ug/kg dry	0.20 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
142534-71-2	Toxaphene, Parlar 26	26		ug/kg dry	0.20 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
166021-27-8	Toxaphene, Parlar 40	42		ug/kg dry	0.24 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
165820-16-6	Toxaphene, Parlar 41	8.8		ug/kg dry	0.26 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
165820-17-7	Toxaphene, Parlar 44	7.4		ug/kg dry	0.23 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
6680-80-8	Toxaphene, Parlar 50	6.9		ug/kg dry	0.25 0.80	2/23/12 11:19	3/22/12 7:17	EPA 8276
154159-06-5	Toxaphene, Parlar 62	7.7		ug/kg dry	1.1 4.0	2/23/12 11:19	3/22/12 7:17	EPA 8276



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Organochlorine Pesticides

Project: 12-0219, Woolfolk Chemical

Sample ID: WCSO54

Lab ID: E120707-05

Station ID: WC245

Matrix: Surface Soil

Date Collected: 2/15/12 10:20

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
70649-42-2	Hp-Sed	250		ug/kg dry	0.17 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
57981-29-0	Hx-Sed	85		ug/kg dry	0.20 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
142534-71-2	Toxaphene, Parlar 26	25		ug/kg dry	0.20 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
166021-27-8	Toxaphene, Parlar 40	40		ug/kg dry	0.24 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
165820-16-6	Toxaphene, Parlar 41	12		ug/kg dry	0.26 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
165820-17-7	Toxaphene, Parlar 44	13		ug/kg dry	0.23 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
6680-80-8	Toxaphene, Parlar 50	19		ug/kg dry	0.25 0.80	2/23/12 11:19	3/22/12 8:16	EPA 8276
154159-06-5	Toxaphene, Parlar 62	16		ug/kg dry	1.1 4.0	2/23/12 11:19	3/22/12 8:16	EPA 8276



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Organochlorine Pesticides (OCP) - Quality Control

US-EPA, Region 4, SEDS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1202136 - E 3545A Modified

Blank (1202136-BLK1)

Prepared: 02/23/12 Analyzed: 03/21/12

EPA 8276

Surrogate: Tetrachloro-meta-xylene	13.072		ug/kg dry	16.577		78.9	40-128			
Surrogate: Decachlorobiphenyl (DCB)	1.2881		"	1.6689		77.2	60-140			
Hx-Sed	U	0.033	"							U
Hp-Sed	U	0.033	"							U
Toxaphene, Parlar 26	U	0.033	"							U
Toxaphene, Parlar 40	U	0.033	"							U
Toxaphene, Parlar 41	U	0.033	"							U
Toxaphene, Parlar 44	U	0.033	"							U
Toxaphene, Parlar 50	U	0.033	"							U
Toxaphene, Parlar 62	U	0.17	"							U

LCS (1202136-BS1)

Prepared: 02/23/12 Analyzed: 03/21/12

EPA 8276

Surrogate: Tetrachloro-meta-xylene	13.251		ug/kg dry	16.594		79.9	40-128			
Surrogate: Decachlorobiphenyl (DCB)	1.3965		"	1.6706		83.6	60-140			
Hx-Sed	2.8735	0.033	"	3.3378		86.1	40-140			
Hp-Sed	3.1348	0.033	"	3.3378		93.9	40-140			
Toxaphene, Parlar 26	2.8031	0.033	"	3.3378		84.0	40-140			
Toxaphene, Parlar 40	2.8541	0.033	"	3.3378		85.5	40-140			
Toxaphene, Parlar 41	2.7203	0.033	"	3.3378		81.5	40-140			
Toxaphene, Parlar 44	2.7650	0.033	"	3.3378		82.8	40-140			
Toxaphene, Parlar 50	2.7830	0.033	"	3.3378		83.4	40-140			
Toxaphene, Parlar 62	2.7824	0.17	"	3.3378		83.4	40-140			

Matrix Spike (1202136-MS1)

Source: E120707-01

Prepared: 02/23/12 Analyzed: 03/22/12

EPA 8276

Surrogate: Tetrachloro-meta-xylene	4.6095		ug/kg dry	64.607		7.13	40-128			XM-1
Surrogate: Decachlorobiphenyl (DCB)	0.59129		"	6.5042		9.09	60-140			XM-1
Hx-Sed	13.361	0.065	"	6.4977	137.83	NR	40-140			XM-1
Hp-Sed	40.906	0.065	"	6.4977	427.44	NR	40-140			XM-1
Toxaphene, Parlar 26	4.9617	0.065	"	6.4977	50.863	NR	40-140			XM-1
Toxaphene, Parlar 40	7.7401	0.065	"	6.4977	81.752	NR	40-140			XM-1
Toxaphene, Parlar 41	2.5582	0.065	"	6.4977	23.225	NR	40-140			XM-1
Toxaphene, Parlar 44	2.6550	0.065	"	6.4977	25.594	NR	40-140			XM-1
Toxaphene, Parlar 50	4.2365	0.065	"	6.4977	44.088	NR	40-140			XM-1
Toxaphene, Parlar 62	5.1936	0.32	"	6.4977	40.928	NR	40-140			XM-1



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Organochlorine Pesticides (OCP) - Quality Control

US-EPA, Region 4, SEDS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1202136 - E 3545A Modified

Matrix Spike Dup (1202136-MSD1)

Source: E120707-01

Prepared: 02/23/12 Analyzed: 03/22/12

EPA 8276

Surrogate: Tetrachloro-meta-xylene	4.2599		ug/kg dry	64.607		6.59	40-128			XM-1
Surrogate: Decachlorobiphenyl (DCB)	0.57310		"	6.5042		8.81	60-140			XM-1
Hx-Sed	14.093	0.065	"	6.4977	137.83	NR	40-140	NR	60	XM-1
Hp-Sed	42.733	0.065	"	6.4977	427.44	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 26	5.0351	0.065	"	6.4977	50.863	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 40	7.8876	0.065	"	6.4977	81.752	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 41	2.6147	0.065	"	6.4977	23.225	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 44	2.6979	0.065	"	6.4977	25.594	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 50	4.3125	0.065	"	6.4977	44.088	NR	40-140	NR	60	XM-1
Toxaphene, Parlar 62	4.9487	0.32	"	6.4977	40.928	NR	40-140	NR	60	XM-1

MRL Verification (1202136-PS1)

Prepared: 02/23/12 Analyzed: 03/21/12

EPA 8276

Surrogate: Tetrachloro-meta-xylene	12.693		ug/kg dry	16.588		76.5	40-128			
Surrogate: Decachlorobiphenyl (DCB)	1.3023		"	1.6700		78.0	60-140			
Hx-Sed	0.034368	0.033	"	0.033367		103	20-160			MRL-3
Hp-Sed	0.039039	0.033	"	0.033367		117	20-160			MRL-3
Toxaphene, Parlar 26	0.028028	0.033	"	0.033367		84.0	20-160			MRL-3, J
Toxaphene, Parlar 40	0.030364	0.033	"	0.033367		91.0	20-160			MRL-3, J
Toxaphene, Parlar 41	0.028362	0.033	"	0.033367		85.0	20-160			MRL-3, J
Toxaphene, Parlar 44	0.030030	0.033	"	0.033367		90.0	20-160			MRL-3, J
Toxaphene, Parlar 50	0.028695	0.033	"	0.033367		86.0	20-160			MRL-3, J
Toxaphene, Parlar 62	0.10677	0.17	"	0.16683		64.0	20-160			MRL-3, J



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Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
MRL-3	MRL verification for Soil matrix
XM-1	Sample background/spike ratio higher than method evaluation criteria